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10/772,103	02/04/2004	Cyril Deretz	SDS-0071	4856

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EXAMINER	
VIZVARY, GERALD C	

ART UNIT	PAPER NUMBER
3696	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,103	DERETZ, CYRIL	
	Examiner	Art Unit	
	GERALD C. VIZVARY	3696	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/4/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The following is a non-final office action in response to the communications received on 2/4/2004. Claims 1-20 are now pending in this application.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 2/4/2004 was considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims1, 4, 7, 9, 12, 15, 17, 18 &20 are rejected under 35 U.S.C. 102(b) as being anticipated by Olsen US 2002/0123951.

As per claim 1, Olsen US 2002/0123951 teaches a method for correlation risk hedging comprising: selecting at least two underlying assets ("The present invention determines a portfolio from past values of underlyings and from views about the future values of underlyings." Olsen US 2002/0123951 A1 ¶ [0004]); and ("Dynamic hedging with trading models is an automatic consequence of the system--since the portfolio can have a position in the US Dollar and a trading model against the US Dollar as two separate assets with different weights in the portfolio." Olsen US 2002/0123951 A1 ¶ [0004]) and

providing a product having a payoff value wherein the payoff value is a function of the similarity of the behavior of the intermediate performances of the at least two underlying assets, each intermediate performance being related to the time period between two successive intermediate dates. ("One aspect of the present invention is a method for determining a portfolio comprising the steps of: inputting past portions of one or more time series of one or more underlyings; inputting one or more views about the future of the one or more time series; and determining one or more future paths of the one or more time series from the past portions and said views." Olsen US 2002/0123951 A1 ¶ [0004])

As per claim 4, Olsen US 2002/0123951 teaches a method according to claim 1 wherein said product comprises an expiry date and wherein the payoff at the expiry date is determined by calculations with time series correlation coefficients:

$$p = 100 * \left[1 + \frac{\sum_{i=1}^{n} p_1(i)\, p_2(i)}{\sqrt{\sum_{i=1}^{n} [p_1(i)]^2} \cdot \sqrt{\sum_{i=1}^{n} [p_2(i)]^2}} \right]$$

wherein n+1 is the number of said intermediate dates, the intermediate date 0 being said initiation date, $p_1(i)$ is the performance between intermediate dates i-1 and 1 of said first underlying asset and $p_2(i)$ is the performance between intermediate dates i- 1 and i of said second underlying asset. ("In addition to a volatility model, the user can associate a model for correlation with each underlying. The available models are the same as the volatility models, i.e. historical, RMA, EMA and GARCH(1, 1). Now,

however, these models are not used to define the volatility for the underlyings. Rather, they are combined pairwise to give formulas for the correlations between the underlyings. Olsen US 2002/0123951 A1 ¶ [0231]) and ("Accordingly, the correlation can be defined by

$$Cor_t = \frac{\sum_{i=1}^{N} w_{1,i} w_{2,i} Y_{1,i} Y_{2,i}}{\left(\sum_{i=1}^{N} |w_{1,i} Y_{1,i}|^2\right)^{1/2} \left(\sum_{i=1}^{N} |w_{2,i} Y_{2,i}|^2\right)^{1/2}}.$$

Olsen US 2002/0123951 A1 ¶ [0236])

As per claim 7, Olsen US 2002/0123951 teaches a method according to claim 1 wherein the product value is determined by a Monte Carlo simulation. ("Simulation Model One embodiment of the present invention solves the portfolio re-allocation problem via Monte Carlo simulation, which involves the construction of multivariate correlated paths into the future for each underlying time series." Olsen US 2002/0123951 A1 ¶ [0022])

As per claim 9, Olsen US 2002/0123951 teaches a system for correlation risk hedging comprising:

a computer processing unit ;

memory device couple to said computer processing unit; and

computer-readable instructions stored in said memory, said computer-readable instructions capable of carrying out the functions of:

selecting at least two underlying assets; and determining a payoff value for a product wherein the payoff value is a function of the similarity of the behavior of the intermediate performances of the at least two underlying assets, each intermediate performance being related to the time period between two successive intermediate dates. ("A programmed computer for determining a portfolio, comprising at least one memory having at least one region storing computer executable program code and at least one processor for executing the program code stored in said memory, wherein the program code includes: (a) code to input past portions of one or more time series of one or more underlyings; (b) code to input one or more views about the future of said one or more time series; and (c) code to determine one or more future paths of said one or more time series from said past portions and said views." Olsen US 2002/0123951 A1 Claim 36)

As per claim 12, Olsen US 2002/0123951 teaches a system according to claim 9 comprising computer-readable instructions stored in the memory wherein said product comprises an expiry date and wherein the payoff at the expiry date is determined by:

$$p = 100 * \left[1 + \frac{\sum_{i=1}^{n} p_1(i) p_2(i)}{\sqrt{\sum_{i=1}^{n} [p_1(i)]^2} \sqrt{\sum_{i=1}^{n} [p_2(i)]^2}} \right]$$

wherein n+I is the number of said intermediate dates, the intermediate date 0 being said initiation date, $p_1(i)$ is the performance between intermediate dates i-1 and i of said first underlying asset and $P_2(i)$ is the performance between intermediate dates i-1 and i of

said second underlying asset. ("A programmed computer for determining a portfolio, comprising at least one memory having at least one region storing computer executable program code and at least one processor for executing the program code stored in said memory, wherein the program code includes: (a) code to input past portions of one or more time series of one or more underlyings; (b) code to input one or more views about the future of said one or more time series; and (c) code to determine one or more future paths of said one or more time series from said past portions and said views." Olsen US 2002/0123951 A1 Claim 36) and results calculated with time series correlation coefficients ("In addition to a volatility model, the user can associate a model for correlation with each underlying. The available models are the same as the volatility models, i.e. historical, RMA, EMA and GARCH(1, 1). Now, however, these models are not used to define the volatility for the underlyings. Rather, they are combined pairwise to give formulas for the correlations between the underlyings. Olsen US 2002/0123951 A1 ¶ [0231]) and ("Accordingly, the correlation can be defined by

$$Cor_t = \frac{\sum_{i=1}^{N} w_{1,i} w_{2,i} Y_{1,i,t} Y_{2,i,t}}{\left(\sum_{i=1}^{N} |w_{1,i} Y_{1,i,t}|^3\right)^{1/3} \left(\sum_{i=1}^{N} |w_{2,i} Y_{2,i,t}|^3\right)^{1/3}},$$

Olsen US 2002/0123951 A1 ¶ [0236])

As per claim 15, Olsen US 2002/0123951 teaches a method according to claim 9 wherein the product value is determined by a Monte Carlo simulation. ("Simulation Model One embodiment of the present invention solves the portfolio re-allocation

problem via Monte-Carlo simulation, which involves the construction of multivariate correlated paths into the future for each underlying time series." Olsen US 2002/0123951 A1 ¶ [0022])

As per claim 17, Olsen US 2002/0123951 teaches a product for correlation risk hedging comprising:

a price wherein the price is a function of an implied correlation of at least two assets; ("In addition to a volatility model, the user can associate a model for correlation with each underlying. The available models are the same as the volatility models, i.e. historical, RMA, EMA and GARCH(1, 1). Now, however, these models are not used to define the volatility for the underlyings. Rather, they are combined pairwise to give formulas for the correlations between the underlyings. Olsen US 2002/0123951 A1 ¶ [0231]) and ("Accordingly, the correlation can be defined by

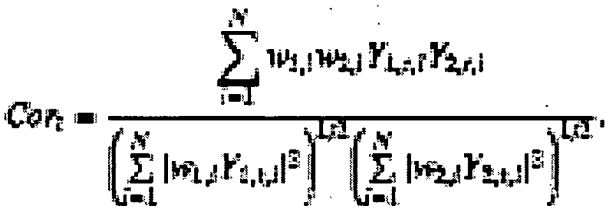
$$Cor_t = \frac{\sum_{i=1}^{N} w_{1,i} w_{2,i} Y_{1,t,i} Y_{2,t,i}}{\left(\sum_{i=1}^{N} |w_{1,i} Y_{1,t,i}|^3\right)^{1/3} \left(\sum_{i=1}^{N} |w_{2,i} Y_{2,t,i}|^3\right)^{1/3}},$$

Olsen US 2002/0123951 A1 ¶ [0236])

and an expiry date wherein the expiry date has a term that is the same term as a term of the implied correlation. ("Here, we use a specially-designed channel indicator describing the degree to which a recent price development can be described as a

channel by counting the number (and amplitude) of oscillations of prices within a given time interval and a range of prices. Olsen US 2002/0123951 A1 ¶ [0285])

As per claim 18, Olsen US 2002/0123951 teaches a product according to claim 17 wherein the price is a function of an implied volatility of the at least two assets. ("In addition to a volatility model, the user can associate a model for correlation with each underlying. The available models are the same as the volatility models, i.e. historical, RMA, EMA and GARCH(1, 1). Now, however, these models are not used to define the volatility for the underlyings. Rather, they are combined pairwise to give formulas for the correlations between the underlyings. Olsen US 2002/0123951 A1 ¶ [0231]) and ("Accordingly, the correlation can be defined by



Olsen US 2002/0123951 A1 ¶ [0236])

As per claim 20, Olsen US 2002/0123951 teaches a product according to claim 17 wherein the price is determined according to a Monte Carlo simulation. ("Simulation Model One embodiment of the present invention solves the portfolio re-allocation problem via Monte-Carlo simulation, which involves the construction of multivariate correlated paths into the future for each underlying time series." Olsen US 2002/0123951 A1 ¶ [0022])

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 3, 5, 6, 8, 10, 11, 13, 14, 16 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen US 2002/0123951 in view of Lange 6,321,212.

As per claim 2, Olsen US 2002/0123951 teaches a method according to claim 1.

Olsen US 2002/0123951 fails to explicitly show the payoff value is value negotiated for a product traded on an over the counter (OTC) market.

Lange 6,321,212 teaches "Derivatives are traded on exchanges, such as the option and futures contracts traded on the Chicago Board of Trade (CBOT), as well as off-exchange or over-the-counter (OTC) between two or more derivative counterparties." (Lange 6,321,212 col. 2 lines 35-38)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Olsen US 2002/0123951 to include payoff value negotiated for a product traded on an over the counter (OTC) market since "For OTC derivatives, brokers or dealers customarily seek to balance their active portfolios of derivatives in accordance with the trader's risk management guidelines and profitability criteria. (Lange 6,321,212 col. 2 lines 48-51)

As per claim 3, Olsen US 2002/0123951 teaches a method according to claim 2.

Olsen US 2002/0123951 fails to explicitly show that said at least one product is quoted on a futures market.

Lange 6,321,212 "This is how derivatives traders currently are able to hedge options, futures, and other derivatives trades" (Lange 6,321,212 col. 18 lines 14-15)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Olsen US 2002/0123951 to include quotes on futures markets since "Hedging is customarily accomplished by trading in the derivatives' underlying securities or contracts (e.g., a futures contract in the case of an option on that future) or in similar derivatives (e.g., futures expiring in different calendar months)." (Lange 6,321,212 col. 2 lines 42-48)

As per claim 5, Olsen US 2002/0123951 teaches a method according to claim 1.

Olsen US 2002/0123951 fails to explicitly teach that each underlying asset is a foreign-exchange rate, an index level, an equity indices or an interest rate.

Lange 6,321,212 teaches "The distribution will typically be defined for events of economic interest for investment by traders having the expectation of a return or a reduction of risk ("hedging"). For example, the distribution can be based upon the values of stocks, bonds, futures, and foreign exchange rates." (Lange 6,321,212 col. 23 lines 44-49)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since "member brokers then usually balance or hedge their own portfolio of derivatives to suit their own risk and return criteria." (Lange 6,321,212 col. 2 lines 42-44)

As per claim 6, Olsen US 2002/0123951 teaches a method according to claim 4. Olsen US 2002/0123951 fails to explicitly teach that said intermediate performances are monthly, weekly or daily performances.

Lange 6,321,212 teaches "increased availability to traders of accurate and up-to-date information on the trading of contingent claims, including information regarding the aggregate amounts invested across all states of events of economic significance, and including over varying time periods" (Lange 6,321,212 col. 14 lines 1-5)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since "to support and facilitate a market structure for contingent claims related to observable events of economic significance." (Lange 6,321,212 col. 13 lines 26-28)

As per claim 8, Olsen US 2002/0123951 teaches a method according to claim 1. Olsen US 2002/0123951 fails to explicitly teach that the product value is determined by a consensus mechanism.

Lange 6,321,212 teaches "Many data services, such as IBES and FirstCall, currently publish estimates by analysts and a consensus estimate in advance of quarterly earnings announcements." (Lange 6,321,212 col. 51 lines 25-27)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since Such estimates can form the basis for indicative opening returns at the commencement of trading as illustrated below. (Lange 6,321,212 col. 51 lines 27-30)

As per claim 10, Olsen US 2002/0123951 teaches a method according to claim 9.

Olsen US 2002/0123951 fails to explicitly show the payoff value is value negotiated for a product traded on an over the counter (OTC) market.

Lange 6,321,212 teaches "Derivatives are traded on exchanges, such as the option and futures contracts traded on the Chicago Board of Trade (CBOT), as well as off-exchange or over-the-counter (OTC) between two or more derivative counterparties." (Lange 6,321,212 col. 2 lines 35-38)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since "For OTC derivatives, brokers or dealers customarily seek to balance their active portfolios of derivatives in accordance with the trader's risk management guidelines and profitability criteria. (Lange 6,321,212 col. 2 lines 48-51)

As per claim 11, Olsen US 2002/0123951 teaches a method according to claim 10.

Olsen US 2002/0123951 fails to explicitly show that said at least one product is quoted on a futures market.

Lange 6,321,212 "This is how derivatives traders currently are able to hedge options, futures, and other derivatives trades" (Lange 6,321,212 col. 18 lines 14-15)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Olsen US 2002/0123951 to include quotes on futures markets since "Hedging is customarily accomplished by trading in the derivatives' underlying securities or contracts (e.g., a futures contract in the case of an option on that future) or in similar derivatives (e.g., futures expiring in different calendar months)." (Lange 6,321,212 col. 2 lines 42-48)

As per claim 13, Olsen US 2002/0123951 teaches a method according to claim 9.

Olsen US 2002/0123951 fails to explicitly teach that each underlying asset is a foreign-exchange rate, an index level, an equity indices or an interest rate.

Lange 6,321,212 teaches "The distribution will typically be defined for events of economic interest for investment by traders having the expectation of a return or a reduction of risk ("hedging"). For example, the distribution can be based upon the values of stocks, bonds, futures, and foreign exchange rates." (Lange 6,321,212 col. 23 lines 44-49)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since "member brokers then usually balance or hedge their

own portfolio of derivatives to suit their own risk and return criteria." (Lange 6,321,212 col. 2 lines 42-44)

As per claim 14, Olsen US 2002/0123951 teaches a method according to claim 12. Olsen US 2002/0123951 fails to explicitly teach that said intermediate performances are monthly, weekly or daily performances.

Lange 6,321,212 teaches "increased availability to traders of accurate and up-to-date information on the trading of contingent claims, including information regarding the aggregate amounts invested across all states of events of economic significance, and including over varying time periods" (Lange 6,321,212 col. 14 lines 1-5)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since "to support and facilitate a market structure for contingent claims related to observable events of economic significance." (Lange 6,321,212 col. 13 lines 26-28)

As per claim 16, Olsen US 2002/0123951 teaches a method according to claim 9. Olsen US 2002/0123951 fails to explicitly teach that the product value is determined by a consensus mechanism.

Lange 6,321,212 teaches "Many data services, such as IBES and FirstCall, currently publish estimates by analysts and a consensus estimate in advance of quarterly earnings announcements." (Lange 6,321,212 col. 51 lines 25-27)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of since Such estimates can form the basis for indicative opening returns at the commencement of trading as illustrated below. (Lange 6,321,212 col. 51 lines 27-30)

As per claim 19, Olsen US 2002/0123951 teaches a method according to claim 17.

Olsen US 2002/0123951 fails to explicitly show that the product is negotiated on an exchange.

Lange 6,321,212 teaches "Derivatives are traded on exchanges, such as the option and futures contracts traded on the Chicago Board of Trade (CBOT), as well as off-exchange or over-the-counter (OTC) between two or more derivative counterparties." (Lange 6,321,212 col. 2 lines 35-38)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Olsen US 2002/0123951 to include payoff value negotiated for a product traded on an over the counter (OTC) market since "For OTC derivatives, brokers or dealers customarily seek to balance their active portfolios of derivatives in accordance with the trader's risk management guidelines and profitability criteria. (Lange 6,321,212 col. 2 lines 48-51)

Conclusion

6. The following is prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Fernholtz (US 5,819,238) shows an apparatus and method for automatically modifying a financial portfolio having a pre-defined universe of securities, such as, e.g., an index fund, that tracks a given capitalization weighted index, through dynamic re-weighting of a position held in each such security. Specifically, in a computer system (50, 60), a target weight is accorded to each such security, relative to others in the portfolio, in proportion to a non-constant function of current capitalization weights of the securities in the index. Once these target weights are determined, then, in response to both the target weight of each such security and an actual weight, as a proportion of the portfolio, in which that security is currently held, a trade will be generated by the system in order to conform, within a predefined band, the actual weight to the target weight so as to rebalance the holdings in the portfolio. The system can selectively operate in either one of two modes: a dynamic rebalancing mode for calculating new target weights and issuing appropriate trades, or a cash investment mode for issuing one or more trade(s) to consume excess cash then held in the portfolio.

Lushkin (US 6,336,102 B1) shows a method and system for management of an investment fund over a specified life, or time horizon H_t, for that fund. Generally, the system includes an investment fund F_n having a fixed time horizon H_t and an associated length to horizon L_H. The fund F_n includes several investment assets A_k, which may be

contained within investment portfolios P_m, which meet some criteria defining a predetermined asset characteristics. Cash is directed to selected ones of the assets, or portfolios, to establish an investment mix for the investment fund F_n. An important aspect of the method and system is adjustment of the investment mix in accordance with some criteria related to the time horizon H_t, preferably related to the diminishing length to horizon L_H, of the investment fund F_n. Thus, as the investment fund matures, the investment mix is changed.

Rebane (US 6,078,904) shows computer system and method for optimally allocating investment funds of an investor in a portfolio having a plurality of investments, comprising: determining a risk tolerance function for the investor specifying the investor's probability preference at each of a plurality of monetary amounts relative to a monetary range relevant to the investor, and allocating the investment funds among the investments to create an investment allocation by maximizing an expected value of a first probability density function of the investor's probability preferences determined as a function of a second probability density function of the portfolio's predicted market performance with respect to the investment funds and the investor's risk tolerance function.

Payne (2003/0144947) shows a computer-based system for hedging and pricing customized basket exchange swaps including a computer-based method for efficiently determining an asset mix to hedge a customized basket exchange swap with a

specified term, notional amount, reference index, and custom index, and an estimated tracking error for the asset mix, comprising, updating a matrix factorization to reflect current financial market data, calculating an objective vector based on current composition of the custom index, determining a correlation coefficient and the asset mix from the matrix factorization and the objective vector, and, calculating an estimated tracking error from the correlation coefficient. The system also includes a computer-based method for determining a price to charge for entering into a customized basket exchange swap, based on an estimated tracking error of an asset mix to hedge the customized basket exchange swap, and a capital requirement and a target rate of return for a counterparty to the customized basket exchange swap.

Jameson (US 6,625,577 B1) shows a method of allocating resources in the presence of uncertainty. The method builds upon deterministic methods and initially creates and optimizes scenarios. The invention employs clustering, line-searching, statistical sampling, and unbiased approximation for optimization. Clustering is used to divide the allocation problem into simpler sub-problems, for which determining optimal allocations is simpler and faster. Optimal allocations for sub-problems are used to define spaces for line-searches; line-searches are used for optimizing allocations over ever larger sub-problems. Sampling is used to develop Guiding Beacon Scenarios that are used for generating and evaluating allocations. Optimization is made considering both constraints, and positive and negative ramifications of constraint violations. Applications

for capacity planning, organizational resource allocation, and financial optimization are presented.

Werbos (US 6,424,956 B1) shows an artificial intelligence system is provided which makes use of a dual subroutine to adapt weights. Elastic Fuzzy Logic ("ELF") System in which classical neural network learning techniques are combined with fuzzy logic techniques in order to accomplish artificial intelligence tasks such as pattern recognition, expert cloning and trajectory control. The system may be implemented in a computer provided with multiplier means and storage means for storing a vector of weights to be used as multiplier factors in an apparatus for fuzzy control.

Edwards (US 6,125,105) shows a method of predicting at least one future value of a time series of data using a neural network comprising the steps of inputting a plurality of values of the time series into the neural network, inputting information about a time into the neural network and obtaining outputs from the neural network said outputs comprising predicted future value(s) of the time series.

Makivic (US 6,061,662) shows Monte Carlo system and method are presented for the pricing of financial instruments such as derivative securities. A path-integral approach is described that relies upon the probability distribution of the complete histories of an underlying security. A Metropolis algorithm is used to generate samples of a probability distribution of the paths (histories) of the security. Complete information on the

derivative security is obtained in a single simulation, including parameter sensitivities. Multiple values of parameters are also obtained in a single simulation. The method is applied in a plurality of systems, including a parallel computing environment and an online real-time valuation service. The method and system also have the capability of evaluating American options using Monte Carlo methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald C. Vizvary whose telephone number is 571-270-3268. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dixon can be reached on 571-272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4268.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerald Vizvary
Patent Examiner, A.U. 3696
February 11, 2008

/ELLA COLBERT/
PRIMARY EXAMINER